

COMPOSITIONS COMPRISING AMORPHOUS ULTRA-HIGH MOLECULAR WEIGHT
POLYOLEFINS- so that the title reads as follows:

A¹
METHODS FOR FORMING AMORPHOUS ULTRA-HIGH
MOLECULAR WEIGHT POLYOLEFINS AND DRAG
REDUCING COMPOSITIONS COMPRISING AMORPHOUS
ULTRA-HIGH MOLECULAR WEIGHT POLYOLEFINS

Please add the following at line 1 of the application:

CROSS REFERENCES TO RELATED APPLICATIONS

A²
This application is a continuation application of U.S. Application Serial No. 09/081,964, filed
May 20, 1998, now U.S. Patent No. 6,015,779 which is a continuation-in-part of U.S. Application
Serial No. 08/619,840, filed March 19, 1996, now U.S. Patent No. 5,869,570.

In Table V at page 25, line 8 of the specification, after "I" please delete "(FIG. 8)".

IN THE CLAIMS

Please cancel claims 1-22 and insert the following new claims:

23. A process for forming a substantially non-crystalline, ultra-high molecular weight polyolefin comprising: contacting olefin monomers with a catalyst system in a reactant mixture, wherein the catalyst system includes a transition metal catalyst and a halohydrocarbon co-catalyst, and polymerizing the olefin monomers at a temperature at about or less than 25°C, *<25°*

wherein during the polymerization, at least a portion of the olefin monomers polymerize in the reactant mixture to provide a non-crystalline, ultra-high molecular weight polyolefin.

Claim 1

24. The process of claim 23, wherein the catalyst system includes an alkylaluminoxane.

25. The process of claim 24, wherein the alkylaluminoxane is selected from the group consisting of methylaluminoxane and isobutylaluminoxane.

26. The process of claim 23, wherein the olefin monomers are alpha olefin monomers.

27. The process of claim 26, wherein the alpha olefin monomers comprise homopolymers, terpolymers or copolymers.

28. The process of claim 26, wherein the alpha olefin monomers comprise co-polymers of 1-hexene and 1-dodecene alpha olefins or co-polymers of 1-octene and 1-tetradodecene alpha olefins.

29. The process of claim 23, wherein the polymerization is terminated by adding a deactivator to the reactant mixture after at least a portion of the olefin monomers polymerize in the reactant mixture to provide the non-crystalline, ultra-high weight polyolefin.

30. The process of claim 23, wherein the olefin monomers are polymerized by bulk polymerization.

31. The process of claim 23, wherein the transition metal catalyst includes titanium trichloride.

32. The process of claim 23, wherein the catalyst system includes diethylaluminum chloride or dibutylaluminum chloride.

33. The process of claim 23, wherein the reactant mixture includes at least one hydrocarbon solvent.

34. The process of claim 33, wherein the olefin monomers and polyolefin remain substantially dissolved in the hydrocarbon solvent during polymerization.

35. The process of claim 23, wherein the polymerization of the olefin monomers continues such that polyolefin is present in the reactant mixture at a concentration of at least about 4 weight percent based upon the weight of the reactant mixture and the polyolefin includes an inherent viscosity of at least about 10 deciliters.

36. A process for forming a substantially non-crystalline, ultra-high molecular weight polyolefin comprising:

contacting olefin monomers with a catalyst system in a reactant mixture,

wherein the catalyst system includes a non-metallocene transition metal catalyst and an alkylaluminoxane co-catalyst; and

polymerizing the olefin monomers at a temperature at about or less than 25°C, wherein during the polymerization, at least a portion of the olefin monomers polymerize in the reactant mixture to provide a non-crystalline, ultra-high molecular weight polyolefin.

Metallocene
double Patent
Claim 1
US-6243385

37. The process of claim 36, wherein the alkylaluminoxane co-catalyst is selected from the group consisting of methylaluminoxane and isobutylaluminoxane.

38. The process of claim 36, wherein the transition metal catalyst comprises titanium trichloride.

39. The process of claim 36, wherein the olefin monomers are alpha olefin monomers.

40. The process of claim 39, wherein the alpha olefin monomers comprise homopolymers, terpolymers or copolymers. (C)

41. The process of claim 39, wherein the alpha olefin monomers comprise co-polymers of 1-hexene and 1-dodecene alpha olefins or co-polymers of 1-octene and 1-tetradodecene alpha olefins. (C)

42. The process of claim 36, wherein the polymerization is terminated by adding a deactivator to the reactant mixture after at least a portion of the olefin monomers polymerize in the reactant mixture to provide the non-crystalline, ultra-high weight polyolefin.

claim 2
6242385

43. The process of claim 36, wherein the olefin monomers are polymerized by bulk polymerization.

44. The process of claim 36, wherein the transition metal catalyst includes titanium trichloride.

claim 4
6242385
(o)

45. The process of claim 36, wherein the catalyst system includes diethylaluminum chloride or dibutylaluminum chloride.

claim 6
6242385
(o)

46. The process of claim 36, wherein the reactant mixture includes at least one hydrocarbon solvent.

claim 9
6242385 -

47. The process of claim 46, wherein the olefin monomers and polyolefin remain substantially dissolved in the hydrocarbon solvent during polymerization.

claim 10
6242385

48. The process of claim 36, wherein the polymerization of the olefin monomers continues such that polyolefin is present in the reactant mixture at a concentration of at least about 4 weight percent based upon the weight of the reactant mixture and the polyolefin includes an inherent viscosity of at least about 10 deciliters.

claim 11
6242385